

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-24. (cancelled)

25. (previously presented) A system for an engine with intake manifold comprising:

an outlet control device controlling flow exiting the manifold and entering the engine,
said outlet control device including variable valve lift;

an inlet control device controlling flow entering the manifold, said inlet control device
including an electronically controlled throttle plate;

a fuel injector coupled to a cylinder of the engine capable of directly injecting fuel into
the cylinder;

an oxygen sensor coupled in an exhaust of the engine; and

a controller determining a desired air amount, adjusting said outlet control device to
provide said desired air amount, adjusting said inlet control device based on an operating
parameter, and adjusting fuel injected directly into the engine via said fuel injector based on said
oxygen sensor.

26. (previously presented) The system of claim 25 further comprising a three-way catalyst
coupled in said exhaust.

27. (previously presented) The system of claim 26 wherein said sensor is located upstream of said three-way catalyst.

28. (previously presented) The system of claim 25 wherein said desired air amount is a cylinder air charge.

29. (previously presented) The system of claim 25 wherein said controller further adjusts said inlet control device based on an error between said desired air amount and a determined air amount.

30. (previously presented) The system of claim 25 wherein the engine is a v-type dual bank engine.

31. (previously presented) The system of claim 25 wherein said controller directly injects fuel into the cylinder during the intake stroke so that a substantially homogenous air/fuel mixture is formed during a stoichiometric mode of operation.

32. (previously presented) The system of claim 25 wherein said controller adjusts fuel injected directly into the engine via said fuel injector based on said oxygen sensor to maintain a stoichiometric air-fuel ratio.

33. (previously presented) A system for an engine with intake manifold comprising:

an outlet control device controlling flow exiting the manifold and entering the engine,
said outlet control device including variable valve lift;

an inlet control device controlling flow entering the manifold, said inlet control device
including an electronically controlled throttle plate;

a fuel injector coupled to a cylinder of the engine capable of directly injecting fuel into
the cylinder during an intake stroke to form a homogenous air-fuel mixture;

an oxygen sensor coupled in an exhaust of the engine;

a three-way catalyst converter coupled in said exhaust; and

a controller determining a desired air amount, adjusting said outlet control device based
on said desired air amount, adjusting said inlet control device based on an operating parameter,
and adjusting fuel injected directly into the engine via said fuel injector based on said oxygen
sensor to maintain a stoichiometric air-fuel ratio.